

REMARKS

At the outset, we want to say how much we admire the approach taken by the Examiner, in pointing out precisely the portions of the disclosure of the applied references to which reference is had. Thus, we completely agree with the last seven lines of page 2 of the Official Action, all of page 3 and the first four lines on page 4.

This is extremely helpful to applicants and applicants' attorneys and all who may read the file of this application, so it enables everyone to understand with precision the nature of the rejection and the grounds therefor. This is the kind of patent examining that reflects great credit on the Patent Office.

Thus, it seems no distortion of the Examiner's position to state that the rejection proposes the replacement of items 421 and 423 shown in Fig. 6A of JIANG et al., with the single transparent member such as 12 in Fig. 16 of JEWELL et al.; and what follows will address the propriety of such a combination of the two references.

For such a combination to be permissible, there must be some suggestion in the references that such a combination would be desirable. The Examiner quite correctly looks for justification for the combination, stating in line 9 of page 4 of the Official Action:

"One of ordinary skill in the art would have been motivated to do this."

The Examiner then refers to four places in the JEWELL reference, in which such desirability is said to be taught. These are as follows:

column 13, lines 35-56
column 14, lines 1-13
column 16, lines 1-12 and
column 7, lines 60-67.

In the mentioned portions of columns 13 and 14, we find no reference to such desirability.

Column 16, lines 1-12 refer, not to the portion of the reference on which reliance must be placed in order to support the rejection, but instead to Figure 19, which obviously has nothing to do with the present invention.

Column 7, lines 60-67 recite the desirability of the material used. But the material used can obviously be the same for items 421 and 423 in Figure 6A of JIANG et al. and for item 12 in Figure 16 of JEWELL et al.

In other words, JIANG et al. and JEWELL et al. are in perfect agreement as to the material to be used, and so neither one can teach the other one anything as to this.

Thus, there is no teaching or suggestion, either in JEWELL et al. or JIANG et al., that the replacement proposed by the rejection should be made.

Furthermore, there is no suggestion, either in JIANG et al. or JEWELL et al., as to the advantages of the present invention over JIANG et al. These advantages are as follows:

In the optical transceiver according to the present invention, the first connection member 8 or 12 is electrically conductive. Therefore, the electromagnetic wave propagating route, which is formed near the front ends of the transmitter and receiver sections, is effectively shielded with the member 8 or 12. As a result, electrical crosstalk between the transmitter and receiver sections due to the electromagnetic waves is suppressed. This is the main advantage of the present invention.

To maximize this advantage of the invention, the optical input and output of the transceiver are conducted with the two pin-hole-shaped openings 8c or 12c formed to penetrate the first connection member 8 or 12 at its optical input and output positions.

Because of these openings 8c or 12c, optical crosstalk between the transmitter and receiver sections due to stray light is also suppressed.

However, JIANG et al. and JEWELL et al. fail to disclose and teach the shielding of electromagnetic waves (in other words, the blocking of the electromagnetic wave propagating route between the transmitter and receiver sections) to thereby suppress electrical and optical crosstalk.

Thus, even if JIANG et al. and JEWELL et al. are considered together, the structure of the present invention would not have been obvious.

JIANG et al. fail to disclose or suggest the fact that the optical block 402 is electrically conductive. On the other hand, JEWELL et al. disclose the electrically conductive element (second wafer substrate) 14.

However, with the structure (Fig. 16) of JEWELL et al., the first wafer substrate 12 is located between the optoelectronic transducers 26 and 26' (i.e., the light-emitting and light-receiving elements) and the second wafer substrate 14 (i.e., the element). Therefore, electromagnetic waves from the light-emitting transducer or element 26 will propagate through the region (or space) in front of these transducers or elements 26 and 26' and as a result, it will badly affect the operation of the light-receiving transducer or element 26'. This means that with the structure (Fig. 16) of JEWELL et al., the routing of electromagnetic waves will not be able to be suppressed and thus, crosstalk is not suppressed with the substrate or element 14.

Thus, JIANG et al. and JEWELL et al. fail to disclose and teach the shielding of electromagnetic waves (in other words, the blocking of the electromagnetic wave propagating route between the transmitter and receiver sections) to thereby suppress electrical and optical crosstalk.

The inventors found that crosstalk is caused by the propagation of electromagnetic waves from the light-emitting section to the light-receiving section. Thus, based on this finding, they created the present invention wherein the crosstalk is suppressed by shielding the propagation of said electromagnetic waves with the electrically conductive first connection member 8 or 12 (and the transparent second connection member 9 or 13), as claimed in claim 1.

In short: a person of ordinary skill in the art, with the two references side by side in front of him or her, would have received no suggestion from either of them, of the above subject matter.

As this subject matter is clearly brought out in the claims now in the case, no amendment of those claims is believed to be needed.

In view of the present amendment and the foregoing remarks, therefore, it is believed that this application has been placed in condition for allowance, and reconsideration and allowance are respectfully requested.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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